Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application. By the present amendment, new claims 13 and 14 have been added.

Listing of Claims:

Claim 1. (*Previously Presented*) A magnetic resonance imaging apparatus comprising:

a static magnetic field generator for generating a static field;

a gradient magnetic field generator for generating a gradient magnetic field that is superimposed on the static magnetic field;

a radio-frequency magnetic field pulse transmitting/receiving unit, which applies a radio-frequency pulse to a region of interest of a patient that is located within the static magnetic field, and which also receives a magnetic resonance signal that is generated from the patient;

a patient couch, which enables movement of the patient;

a position information establishing apparatus which provides 3-dimensional position information of the region of interest of the patient; and

a patient couch controller for moving the patient couch, based on the provided position information, so that the region of interest is re-positioned in 3-dimensions substantially either at the center of the static magnetic field, or at the center of the gradient magnetic field.

Claim 2. (*Previously Presented*) A magnetic resonance imaging apparatus as in claim 1, wherein the position information establishing apparatus accepts input position information based on an image of the patient that is obtained from the magnetic resonance signal.

Claim 3. (*Previously Presented*) A magnetic resonance imaging apparatus as in claim 1, wherein the position information establishing apparatus comprises a position detection apparatus that detects the position of the region of interest.

Claim 4. (*Previously Presented*) A magnetic resonance imaging apparatus as in claim 3, wherein the patient couch controller performs an initial approximate positioning of the patient couch, based on a signal from the position detection apparatus.

Claim 5. (*Previously Presented*) A magnetic resonance imaging apparatus as in claim 1, wherein the patient couch is capable of moving the patient in the horizontal and vertical directions.

Claim 6. (*Previously Presented*) A method for performing magnetic resonance imaging diagnosis, said method comprising:

placing the patient onto a patient couch that is disposed within a static magnetic field and a gradient magnetic field;

moving the patient couch based on a signal from a position detector so that a region of interest of the patient approximately coincides with the center of the static magnetic field or the center of the gradient magnetic field;

applying a radio-frequency pulse to the region of interest of the patient, and receiving a magnetic resonance signal that is generated from the patient;

reconstructing a plurality of images of the patient, based on the magnetic resonance signal;

selecting an image that includes the region of interest from the plurality of images of the patient; and

moving the patient couch, based on the selected image, so that the region of interest of the patient substantially coincides in 3-dimensions with the center of the static magnetic field or the center of the gradient magnetic field.

Claim 7. (*Previously Presented*) A method for performing magnetic resonance imaging diagnosis as in claim 6, wherein the step of selecting an image further comprises a step of designating the region of interest within the selected image.

Claim 8. (*Previously Presented*) A method for performing magnetic resonance imaging diagnosis, said method comprising:

placing the patient onto a patient couch that is disposed within a static magnetic field and a gradient magnetic field;

designating a 3-dimensional position of a region of interest of the patient; and

moving the patient couch, so that the region of interest of the patient substantially coincides 3-dimensionally with the center of the static magnetic field or the center of the gradient magnetic field.

Claim 9. (*Previously Presented*) A method as in claim 8, wherein the step of designating a 3-dimensional position of a region of interest further comprises the steps of:

moving the patient couch so that the region of interest of the patient approximately coincides with the center of the static magnetic field or the center of the gradient magnetic field;

applying a radio-frequency pulse to the region of interest of the patient, and receiving a magnetic resonance signal that is generated from the patient;

reconstructing a plurality of images of the patient, based on the magnetic resonance signal;

selecting an image that includes the region of interest from the plurality of images of the patient; and

designating the region of interest within the selected image.

Claim 10. (*Previously Presented*) A method as in claim 9 wherein the initial step of moving the patient couch comprises obtaining positional information from a position sensor representing a 3-dimensional position for the region of interest.

Claim 11. (*Previously Presented*) A method for three-dimensionally positioning a patient region of interest substantially as an optimum MR imaging position for diagnostic imaging within an MRI system, said method comprising:

positioning a patient region of interest at a first position within an MRI field of view;

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generating MR images of the patient in three dimensions while located at said first position using a first high speed positioning scan MRI data acquisition pulse sequence;

locating and designating the patient region of interest position within said images;

generating 3-dimensional position difference data between the designated position of the patient region of interest in the images and an optimum MR imaging position;

automatically re-positioning the patient region of interest in 3-dimensions from said first, now designated, position to an optimum MR imaging position using said position difference data; and

generating diagnostic MRI data, after the patient is re-positioned to said optimum MR imaging position, using a second diagnostic MRI data acquisition pulse sequence, different than said first sequence, to provide diagnostic images having improved precision and quality with reduced image distortion, non-uniformities and fat artifacts.

Claim 12. (*Previously Presented*) A method as in claim 11 wherein said positioning step utilizes position data provided by a position sensor that automatically senses a relative spatial position between a movable patient and a fixed MRI system.

Claim 13. (*New*) A magnetic resonance imaging apparatus comprising:

a static magnetic field generator for generating a static field;

a gradient magnetic field generator for generating a gradient magnetic field that is superimposed on the static magnetic field;

a main enclosure formed to enable enclosing of a patient, the main enclosure including the static magnetic field and the gradient magnetic field;

a radio-frequency magnetic field pulse transmitting/receiving unit, which applies a radio-frequency pulse to a region of interest of a patient that is located within the static magnetic field, and which also receives a magnetic resonance signal that is generated from the patient;

a patient couch, which enables movement of the patient;

a position information establishing apparatus which establishes three-dimensional position information of the region of interest of the patient; and

a patient couch controller for moving the patient couch, based on the provided position information, so that the region of interest is re-positioned in 3-dimensions substantially either at the center of the static magnetic field, or at the center of the gradient magnetic field based on the three dimensional position information from the position information establishing apparatus.

Claim 14. (*New*) A method for performing magnetic resonance imaging diagnosis, using a magnetic resonance imaging apparatus having a main enclosure enabling enclosing of a patient, said method comprising:

placing the patient onto a patient couch that is disposed within a static magnetic field and a gradient magnetic field formed in the main enclosure;

moving the patient couch based on a signal from a position detector so that a region of interest of the patient approximately coincides with the center of the static magnetic field or the center of the gradient magnetic field;

applying a radio-frequency pulse to the region of interest of the patient, and receiving a magnetic resonance signal that is generated from the patient;

reconstructing a plurality of images of the patient, based on the magnetic resonance signal;

selecting an image that includes the region of interest from the plurality of images of the patient to establish three-dimensional position information of the region of interest; and

moving the patient couch, based on the three-dimensional position information of the region of interest, so that the region of interest of the patient substantially coincides in 3-dimensions with the center of the static magnetic field or the center of the gradient magnetic field.